

TABLE 4-continued

Exemplary Analytes	
COX inhibitors	TxB2 (Cox-1), 6-keto-PGF-1- $\alpha$ (Cox 2), 11-Dehydro-TxB-1a (Cox-1)
Geriatric	Neuron-specific enolase, GFAP, and S100B
Nutritional status	Prealbumin, Albumin, Retinol-binding protein (RBP), Transferrin, Acylation-Stimulating Protein (ASP), Adiponectin, Agouti-Related Protein (AgRP), Angiopoietin-like Protein 4 (ANGPTL4, FIAF), C-peptide, AFABP (Adipocyte Fatty Acid Binding Protein, FABP4) Acylation-Stimulating Protein (ASP), EFABP (Epidermal Fatty Acid Binding Protein, FABP5), Glicentin, Glucagon, Glucagon-Like Peptide-1, Glucagon-Like Peptide-2, Ghrelin, Insulin, Leptin, Leptin Receptor, PYY, RELMs, Resistin, and sTfR (soluble Transferrin Receptor)
Lipid metabolism	Apo-lipoproteins (several), Apo-A1, Apo-B, Apo-C-II, Apo-D, Apo-E
Coagulation status	Factor I: Fibrinogen, Factor II: Prothrombin, Factor III: Tissue factor, Factor IV: Calcium, Factor V: Proaccelerin, Factor VI, Factor VII: Proconvertin, Factor VIII: Anti-hemolytic factor, Factor IX: Christmas factor, Factor X: Stuart-Prower factor, Factor XI: Plasma thromboplastin antecedent, Factor XII: Hageman factor, Factor XIII: Fibrin-stabilizing factor, Prekallikrein, High-molecular-weight kininogen, Protein C, Protein S, D-dimer, Tissue plasminogen activator, Plasminogen, a2-Antiplasmin, Plasminogen activator inhibitor 1 (PAI1), those for EGFR, ErbB2, and IGF1R
Monoclonal antibodies	
Tyrosine kinase inhibitors	Ab1, Kit, PDGFR, Src, ErbB2, ErbB 4, EGFR, EphB, VEGFR1-4, PDGFRb, Flt3, FGFR, PKC, Met, Tie2, RAF, and TrkA; VEGF
Serine/Threonine	AKT, Aurora A/B/C, CDK, CDK (pan), CDK1-2, VEGFR2, PDGFRb, CDK4/6, MEK1-2, mTOR, and PKC-beta
Kinase Inhibitors	
GPCR targets	Histamine Receptors, Serotonin Receptors, Angiotensin Receptors, Adrenoreceptors, Muscarinic Acetylcholine Receptors, GnRH Receptors, Dopamine Receptors, Prostaglandin Receptors, and ADP Receptors
Other	Theophylline, CRP, CKMB, PSA, Myoglobin, CA 125, Progesterone, TxB2, 6-keto-PGF-1- $\alpha$ , and Theophylline, Estradiol, Luteinizing hormone, High sensitivity CRP, Triglycerides, Trypsin, Low density lipoprotein Cholesterol, High density lipoprotein Cholesterol, Cholesterol, IGFR, Leptin, Leptin receptor, and Pro-calcitonin, Brain S100 protein, Substance P, 8-Iso-PGF-2a; GIP; GLP-1

What is claimed is:

1. A two-way communication system for monitoring an analyte in a bodily fluid from a subject, comprising:

a) an external device configured to transmit a protocol to a reader assembly;

b) a fluidic device configured to be inserted into the reader assembly, said fluidic device comprising:

(i) a sample collection unit configured for collecting a sample of bodily fluid that contains an analyte;

(ii) an assay assembly containing reactants that react with said sample of bodily fluid based on the protocol transmitted from said external device to yield a detect-

able signal indicative of the concentration of said analyte present in said bodily fluid; and

(iii) an identifier that is configured to provide the identity of said fluidic device and is also configured to trigger the transmission of said protocol;

c) the reader assembly configured for two-way communication with the external device, said reader assembly comprising a programmable processor configured to receive said protocol from said external device, wherein said protocol in turn effects a reaction in said assay assembly for generating said detectable signal, wherein said reader further comprises a detection assembly for detecting said detectable signal, and a communication assembly for transmitting said detected signal to said external device, and wherein the external device is configured to (i) compare said concentration of said analyte detected with a reference concentration of said analyte stored in a database, and (ii) generate a subsequent reaction protocol based on said comparison in order to effect a subsequent reaction on a fluidic device for monitoring said analyte.

2. The system of claim 1, wherein said reader assembly is configured to receive said protocol wirelessly from said external device.

3. The system of claim 1, wherein said reader assembly comprises an identifier detector that detects said identifier.

4. The system of claim 1, wherein said sample collection unit collects a sample of bodily fluid which is less than about 500  $\mu$ l.

5. A system for detecting a plurality of analytes of varying concentrations in a bodily fluid from a subject, comprising:

a) an external device configured to transmit a protocol to a reader assembly, wherein said protocol effects a plurality of reactions to be taking place in a fluidic device;

b) the fluidic device configured to be inserted into the reader assembly, said fluidic device comprising:

(i) a sample collection unit configured to collect a sample of said bodily fluid suspected to contain a plurality of analytes of varying concentrations;

(ii) a dilution chamber containing a diluent capable of diluting said sample of said bodily fluid;

(iii) an assay assembly containing a plurality of immunoassay reagents, each of which is permitted to react with a sample of said bodily fluid to generate a detectable signal within a range detectable by a reader assembly, and wherein said detectable signal is indicative of the concentration of an analyte of said plurality; and

(iv) an identifier that is configured to provide the identity of said fluidic device and is also configured to trigger the transmission of said protocol;

c) the reader assembly configured for two-way communication with the external device, said reader assembly comprising a programmable processor configured to receive said protocol from said external device, wherein said protocol from said external device determines degree of dilution performed with said diluent from said dilution chamber, and wherein said reader assembly comprises a detection assembly for detecting said detectable signals; and

d) a communication assembly for transmitting said detected signals to said external device.

6. The system of claim 1, wherein said reactants comprise immunoassay reagents immobilized within the assay assembly.